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XXX. *Observationes Astronomicæ Christiani Mayer, S. J.*

Illustrissimo ac celeberrimo Viro ac Domino Carolo de Morton, Academia Regiæ Londinensis a secretis, S. P. dicit Christianus Mayer, S. J. S. E. P. Astronomus.

Read May 24,
1764.

Observationem meam eclipsis Lunariss quam hic tibi sisto, quamque circa 20^{am} Martii Parisios jam miseram, ex responso clarissimi viri de la Lande, die 3 Aprilis ad me dato, audio Parisiis erroris 10 minutorum suspectam haberi, quibus ejus durationem justo minorem collegissem: cum enim ex initio et fine certo hujus meæ observationis inveniam quantitatem durationis 2^h 46' 51'', eam celeberrimus ephemeridum Parisinarum conditor de la Landius putat esse oportere 2^h 56'. Non potuit, ut scribit laudatus astronomus, eclipsis hæc diei 17 Martii, nec illa 1 Aprilis, ob nubes Lutetiæ observari: potuit fortasse Londini, et Grenovici; quod si ita, omnem facile controversiam diremptam video. Si enim Londini initium hujus eclypsis acciderit 10^h 31' circiter, certum est idem in meridiano Parisino 9 minutis orientaliore accidisse 10^h 40' 40'', ut habent ephemerides Parisinæ; sin minus, si Londini initium hujus eclipsis observatum fuerit 10^h 39' 5'', perspicuum est errorem 10 minutorum cadere in ephemerides, et nequaquam in observationem meam, quæ hac ratione statutæ meridianorum differentiæ ubique terrarum optime congruet: siquidem ex aliis primi satellitis Jovis

Jovis institutis eclipsim comparationibus Schwetzingam invenio 31' in tempore Viennâ occidentaliorem.

Quare cum rumor hic aulam nostram pervaserit, me in observatione eclipses hujus lunaris 10 minutis aberrasse, ad te, vir celeberrime, mihi confugiendum fuit, quem hisce demisse oro, ut celeri responso, quid actum sit Londini, quid Grenovici, mihi significare digneris.

Rem quoque mihi feceris gratissimam, si ad me perscripseris, quæ sint meliores magisque usitatæ in Anglia cœlestes ephemerides pro annis futuris, qui tuis me favoribus toto animo demississimè commendo.

Illustrissimæ tuæ dignitatis

Servus infimus

Heidelbergæ,
17 Aprilis, 1764.

Christianus Mayer, S. J.

Sereniss. Elector. Palatin. Astron.

Immerfiones et emerfiones macularum » in eclipfi
Lunæ diei 17 Martii, Schwefingæ in Palatinatu
prope Heidelbergam, obfervatæ à P. Chriftiano
Mayer, è S. J. tubo Dollondi 10 pedum.

Tempus verum.

	^h	[']	["]
Penumbra cœpit	II	2	24
Penumbra denfior		8	11
Initium dubium		13	8
Eclipfis videtur cœpiffe		14	9
Mare humorum stringitur ab umbra		25	22
Mare humorum medium in umbra		27	24
Tycho incipit immergi		29	58
Tycho totus in umbra		30	21
Grimaldus proximus umbræ		31	31
Grimaldus et Schicardus in umbra		34	15
Mare nubium ingreditur umbram		39	30
Gaffendus ad limitem umbræ		41	20
Infula finus medii in umbra		46	35
Landspergius in umbra		47	33
Umbra Keplerum stringit		48	8
Keplerus ultra dimidium in umbra		51	3
Keplerus totus in umbra		52	4
Copernicus stringitur ab umbra		59	15
Copernicus totus in umbra	12	2	26
Mare fœcundatis fere medium in umbra		6	40
Mare tranquillitatis incipit		8	43
Palus fomnii incipit effe in umbra		10	16
Mare tranquillitatis ultra med. in umbra		13	55
Taruntius totus in umbra		18	14
Plinius et Menelaus ad umbram		20	18
Mare ferenitatis stringitur ab umbra		22	23
			Proclus

	Tempus verum.		
	^h	[']	^{''}
Proclus ad umbram	12	27	8
Mare Crisium ultra med. in umbra		32	44
Mare Crisium seu Caspium tot. in umbra		38	1
Mare serenitatis med. in umbra		41	28
Copernicus incipit egredi		58	35
Copernicus dimidius ex umbra		59	57
Limbus umbræ stringit Copernicum	13	1	57
Menelaus emerfit		8	21
Manilius videtur egredi		11	35
Mare humorum med. ex umbra		13	45
Manilius videtur egressus		14	51
Mare serenitatis extra umbram		17	2
Sinus æstuum et mare humorum tot. ex umbra		20	25
Mare nubium medium ex umbra		23	41
Mare Caspium egreditur		25	15
Umbra paludem somnii deserit		30	38
Tycho emergit cum dimidio mari Crisio		32	30
Tycho certo emerfit		35	49
Taruntius videtur egressus		41	27
Mare tranquillitatis ultra med. emerfit		46	36
Langrenus emergit cum Dionysio		47	25
Mare fecunditatis fere tot. emerfit		52	18
Langrenus certo ex umbra		55	22
Videtur umbra mixta luci		59	11
Finis eclipsis dubius	14	0	11
Finis certus		1	0
Penumbra residua		3	10
Finis penumbræ		4	0

Præter has maculas, à me dimensæ sunt phases 20:
et tempore maximæ obscurationis 12^h 37', inventa ob-
scurationis

scuratio maxima $23^{\circ}88\frac{1}{4}$ partium micrometri (quod tubo separato 6 pedum accommodaveram) quarum diameter Lunæ inventa est $33\ 13 = 33^{\circ}49''$; unde meo quidem calculo obscuratio maxima deducitur 8 digit. 39 minut.

Observatio eclipsis Solaris facta Schwetzingæ in observatorio Electorali anno 1764, die civil. N. S. 1ma Aprilis tubo dioptrico 6 pedum micrometro armato, cœlo sereno, barometro 27 pollic. 2 lin. præsentibus illustr. et excell. D. D. O Dunne Ministro Galliæ, et Comite de Riancour Legato Saxoniæ.

I M M E R S I O N E S.

Tempus verum.	Partes centes. disci ☉ obscur. mensurantes sagittam ad chordam duo cornua secantem normalis.	Partes centesimæ disci ☉ lucidi.
h 21 40 41 { videtur eclipsis { coepisse. 43 2 { duplex cornu { sensibile.		
48 4	113	
51 53	157	
56 9	251	
22 4 33	418	
6 52	449	
9 43	508	
11 22	536	
14 29	611	
19 46	725 $\frac{3}{4}$	
23 43		1751
25 13		1709
33 16		1468
38 26		1273
42 40		1162
48 6		987 $\frac{1}{4}$
52 40		861
55 14		762
58 7		658
23 1 33		574
3 54		513
8 3		416
10 56		409

10 dig. 25 $\frac{1}{2}$ min.

E M E R S I O N E S.

Tempus verum.	Partes centef. disci ☉ obscur. menfurantes fa- gittam ad chor- dam duo cornua secantem nor- malis.	Partes centefi- mæ disci ☉ lu- cidi.
h 23 13 40		414
14 0		421
18 59		540
21 49		621
24 36		705
27 21		777 $\frac{1}{4}$
31 33		890
33 53		986
37 29		1091 $\frac{3}{4}$
40 45		1209
45 58		1367
50 58		1526
53 43		1606 $\frac{3}{4}$
h 57 48		1729 $\frac{1}{4}$
o 2 29		1860 $\frac{3}{4}$
9 4		2062
14 20	494	
17 38	434	
25 17	311	
27 20	259	
33 42	152	
37 16	110	
43 0	finis certus eclipsis.	

Diameter solis in partibus centesimis micrometri probe verificati $3117 = 32' 4''$, 8.

Nondum licuit phasēs has omnes acuratius examinare; quarum priores immersionis, in maxima hominum frequentia, minus exactæ sunt.